



Regional PSAP Meeting

October 3, 2005
Charlottesville, Virginia

Agenda



1. Welcome/Introductions
2. Deployment Status
3. Recent Funding Changes
4. Annual Report
5. Legislative Position of Board
6. VoIP Actions
7. Lunch
8. Open Discussion



Deployment Status

CMRS Status Summary



Alber (8/05)						
Amelia County	7081	03/22/02	02/02/03	05/16/05	11/16/05*	Phase I - Live / Phase II Requested
Appomattox County	7083					No Phase I Request
Buchanan County	7083					No Phase I Request
Goodland County	7136	03/21/02	03/07/03	N/A		Phase I - Live / No Phase II Request
Halifax County	7141	01/09/04	03/09/04	02/07/05	08/03/05	Phase II - Live
Hopewell, City of	7147	09/13/02	02/25/03	03/22/05	08/24/05	Phase II - Live
Lee County	7156					No Phase I Request
Nelson County	7169	12/10/03	04/21/04	10/05/04	02/01/06	Phase I - Live / Phase II extension
Notoway County	7175	03/01/02	02/24/03	05/16/05	11/16/05*	Phase I - Live / Phase II Requested
Poquoson, City of	7182	02/13/03	09/02/03	N/A		Phase I - Live / No Phase II Request
Powhatan County	7184	05/17/99	06/31/01	N/A		Phase I - Live / No Phase II Request
Prince George County	7185	12/19/01	11/29/02	N/A		Phase I - Live / Phase II Requested
Russell County	7195	08/29/02	03/18/04	N/A		Phase I - Live / Phase II Requested
Scott County	7197					No Phase I Request
Tazewell County	7214	05/11/04	01/01/05	N/A		Phase I - Live / No Phase II Request
Wise County	7229	09/18/02	06/11/04	04/29/05	02/29/05*	Phase I - Live / Phase II Requested

CMRS Status Summary



Cingular (7/05)						
Frederick County	7133	11/22/99	03/14/02			Phase I - Live / No Phase II Request
King and Queen County	7151	02/11/04	04/05/05			Phase I - Live / No Phase II Requested
Lancaster County	7154	11/05/01	08/05/03	03/07/05	09/07/05	Phase I - Live / Phase II Requested

CMRS Status Summary



Netel (8/05)						
Amelia County	7081	9/22/04	4/11/2005	5/5/2005	11/5/2005	Phase I - Live / Phase II Requested
Charlottesville, City of	7105	8/7/1999	10/30/2001	3/26/2001	9/18/2005	Phase I - Live / Phase II Requested
Clarke County	7107	5/18/2001	10/18/2005			Phase I Requested - Initially no sites
Colleton County	7114			5/9/2005	11/9/2005	Phase I & II Requested - Initially no sites
Denwidde County	7118	12/16/2004	3/28/2005	3/1/2005	9/1/2005	Phase II - Live
Essex County	7121	12/2/2004	10/28/2004			Phase I - Live / No Phase II Request
Goodland County	7136	3/12/2002	3/19/2003			Phase I - Live / No Phase II Request
King and Queen County	7151	2/11/2004	7/15/2005			Phase I Requested - Initially no sites
Mecklenburg County	7166			7/18/2005	1/18/2006	Phase I & II RequestedInitially no sites
Middlesex County	7167	9/18/2002	8/31/2005	2/13/2004	8/1/2005	Phase II - Live
Notoway County	7175	3/1/2002		5/18/2005	11/18/2005	Phase I & II RequestedInitially no sites
Orange County	7176			5/18/2005	11/18/2005	Phase I & II RequestedInitially no sites
Poquoson, City of	7182	2/5/2003	2/22/2004			Phase I - Live / No Phase II Request
Powhatan County	7184	7/13/1999	7/15/2002	12/3/2002	Withdraw request	Phase I - Live / No Phase II Request
Prince George County	7185	12/19/2001	10/29/2002			Phase I - Live / Phase II Requested
Warren County	7220	11/19/2001	TBD			Phase I Requested - Initially no sites
West Point, Town of	7224	11/21/2002	9/1/2005	3/18/2004	9/1/2005	No Coverage

CMRS Status Summary



nTabos (8/05)					
Appomattox County	7185				No Requests
Dimwiddle County	7118	12/16/04	03/24/05	03/11/05	Phase II - Live
Frederick County	7131	07/01/00	07/30/01	03/03/03	Phase I - Live / Phase II Requested
Goodland County	7136	03/01/02	06/03/04		Phase I - Live / No Phase II Request
Nelson County	7169	02/01/03	09/13/03	05/30/04	Phase I - Live / Phase II Requested
Poquoson, City of	7162	02/05/03	02/25/04		Phase I - Live / No Phase II Request
Poshatan County	7184	05/01/99	06/21/00		Phase I - Live / No Phase II Request
Prince George County	7185	06/22/05		06/22/05	Phase I & II Requested
Roanoke County	7193	12/01/00	01/08/02	10/29/04	06/11/05
Staunton, City of	7211	02/03/03	12/09/03		Phase I - Live / No Phase II Request
Sussex County	7213				No Requests
Tazewell County	7214	05/09/04	02/09/05		Phase I - Live / No Phase II Request

CMRS Status Summary



Spring (6/05)					
Essex County	7121	04/04/04	10/04/04		07/30/05
Farmville, Town of	7125	10/28/02			
Gloucester County	7135	10/28/02	02/28/03	01/17/03	
Goodland County	7136	10/28/02	05/03/03	01/28/03	
Lunenburg County	7159	02/03/03	08/03/03		09/30/05
New Kent County	7170	08/01/01	10/02/02	10/08/02	09/30/05
Poquoson, City of	7162	02/03/03	07/24/04		
Poshatan County	7184	06/01/99	07/06/00		
Prince George County	7185	01/02/02	08/02/02	08/22/02	02/30/05
Sagehenrock County	7189	12/04/01	06/05/05	07/01/04	07/15/05
West Point, Town of	7224	10/23/02	07/03/03	10/05/02	02/30/05
Williamsburg, City of	7226	12/04/00	01/25/05		07/17/05

CMRS Status Summary



T-Mobile (8/05)					
Campbell County	7095	12/01/04	09/26/05	12/01/04	09/26/05
Goodland County	7136	03/14/02	07/01/03		
Henry County	7164	10/25/01	04/02/04	10/25/01	07/28/05
Louisa County	7158	12/04/01	02/08/05	01/11/05	07/22/05
Martinsville, City of	7164	10/25/01	04/02/04	10/25/01	07/28/05
Nelson County	7169	03/17/03	08/27/03	10/04/04	02/01/06
Poquoson, City of	7162	02/07/03	02/05/04		
Poshatan County	7184	03/15/04	06/23/04		
Prince George County	7185	12/01/01	06/01/03	03/11/05	01/09/06
Pulaski County	7187	05/01/04	10/07/04	03/21/05	06/08/05
Roanoke County	7193	08/11/03	01/14/04	10/29/04	09/23/05
Salem, City of	7196	08/06/03	04/27/04		
Southampton County	7203				
Staunton, City of	7211	12/23/02	10/31/03		
Warren County	7220				

CMRS Status Summary



Triton PCS - Suncom (8/05)					
Amelia County	7081	01/13/03	07/07/03		Phase I - Live / No Phase II Request
Appomattox County	7083				No Phase I Request
Bath County	7086				No Phase I Request
Campbell County	7095	01/21/03	09/03/04		Phase I - Live / No Phase II Request
Colonial Heights, City of	7110	03/04/02	07/03/03	07/23/03	Phase I Live / Phase II Requested
Dinwiddie County	7118				No Phase I Request
Essex County	7121	01/27/04	07/03/04		Phase I - Live / No Phase II Request
Farmville, Town of	7125				No Phase I Request
Franklin County	7129	11/20/02	02/24/04	05/03/03	Phase I Live / Phase II Requested
Goucester County	7135	10/03/01	11/04/03	03/12/04	Phase I - Live / Phase II Requested
Grovermont County	7136	06/28/02	07/29/03		Phase I - Live / No Phase II Request
Greene County	7139	02/28/02	07/15/04	02/01/04	Phase I Live / Phase II Requested
Greenville County	7140	05/21/04	07/13/04	05/21/04	Phase I Live / Phase II Requested
King and Queen County	7151	02/29/04	03/25/05		Phase I - Live / No Phase II Request

CMRS Status Summary



Triton PCS - Suncom (8/05)					
Madison County	7161	08/11/03	02/01/05		Phase I - Live / No Phase II Request
Nelson County	7169	03/17/03	04/18/04	03/30/04	Phase I Live / Phase II Requested
Nottingham County	7175	04/02/04	10/04/04		Phase I - Live / No Phase II Request
Poquoson, City of	7182	02/05/03	11/12/03		Phase I - Live / No Phase II Request
Powhatan County	7184	04/09/01	04/11/02		Phase I - Live / No Phase II Request
Prince Edward County	7125		Farmville is primary		No Phase I Request
Prince George County	7185	12/10/01	10/24/02		Phase I - Live / No Phase II Request
Sulphur County	7187	07/03/01	12/09/02		Phase I - Live / No Phase II Request
Swain County	7193	01/02/02	06/24/02	02/29/04	Phase I Live / Phase II Requested
Scott County	7197				No Phase I Request
Stafford County	7204	09/21/01	12/03/03	04/01/02	Phase I Live / Phase II Requested
Staunton, City of	7211	12/17/02	01/22/04		Phase I - Live / No Phase II Request
Sussex County	7213	12/11/01	06/27/02	04/07/04	Phase I Live / Phase II Requested
Verdon, Town of	7217	05/23/02	12/22/03	09/14/04	Phase I Live / Phase II Requested
Williamsburg, City of	7226	12/01/00	02/13/02	09/01/04	Phase I Live / Phase II Requested
Wintherville, Town of	7231				No Phase I Request

CMRS Status Summary



U.S. Cellular (8/05)					
Covington, City of	7111	05/01/02	02/28/04	09/15/05	12/15/05
Craig County	7113	03/08/04	06/30/05		Phase I Requested/No Phase II Request
Farmville, Town of	7125	12/23/04	09/12/05		Phase I Requested/No Phase II Request
Giles County	7134	06/28/03	04/29/04		Phase I - Live / No Phase II Request
Halifax County	7141	01/28/04	09/24/04	02/01/05	07/28/05
Roanoke County	7193	02/23/01	07/16/02	10/29/04	11/23/05

CMRS Status Summary



Verizon Wireless (855)						
Amelia County	7081	01/13/03	01/28/03	05/05/05	11/01/05	Phase I - Live / Phase II Requested
Buchanan County	7093	10/28/02	04/28/03			Invalid request
Clarke County	7107	02/03/00	06/26/02			Phase I - Live / No Phase II Request
Covington, City of	7111	05/01/02	07/28/03	08/15/05	12/15/05	Phase I - Live / Phase II Requested
Dickenson County	7117	04/23/05	10/20/05	04/23/05	10/20/05	Phase I & II Requested
Essex County	7121	01/27/04	07/01/04			Phase I - Live / No Phase II Request
Farmville, Town of	7125	12/23/04	08/30/05			Phase I Extension
Giles County	7134	05/28/03	03/11/04			Phase I - Live / No Phase II Request
Goodland County	7136	03/14/02	12/11/02			Phase I - Live / No Phase II Request
King and Queen County	7151	02/11/04	01/16/05			Phase I - Live / No Phase II Request
Lancaster County	7154	09/17/02	01/29/03	08/23/05	08/17/05	Phase II - Live
Littonburg County	7159	01/09/02	08/25/05			Phase I Extension
Mathews County	7165	06/23/05	12/29/05	06/23/05	12/29/05	Phase I & II Requested

CMRS Status Summary




Verizon Wireless (855)						
Northway County	7175	04/02/04	09/30/04	05/05/05	11/01/05	Phase I - Live / Phase II Requested
Poquoson, City of	7182	07/15/05	12/20/02			Phase I - Live / No Phase II Request
Powhatan County	7184	06/14/05	07/12/00			Phase I - Live / No Phase II Request
Prince George County	7185	12/18/01	12/17/02	06/22/05	12/18/05	Phase I - Live / Phase II Requested
Roanoke County	7193	02/02/01	09/26/02	10/29/04	08/01/05	Phase I - Live / Phase II Extension
Russell County	7195	08/14/03	04/06/04	07/07/05	01/03/06	Phase I - Live / Phase II Requested
Saunton, City of	7211	12/17/02	09/23/03	05/25/04	11/09/04	Phase II - Live
West Point, Town of	7224	01/24/02	12/20/02	03/18/04	03/16/05	Phase I - Live / Phase II Extension
Winchester, City of	7228	12/29/01	06/26/02			Phase I - Live / No Phase II Request
Wise County	7229	11/01/03	06/17/04	04/23/05	10/20/05	Phase I - Live / Phase II Requested


CMRS Status Summary



Virginia Cellular		
Nelson County	7169	Phase I Live / Phase II Requested
Staunton, City of	7211	Phase I - Live / No Phase II Request




Funding Changes



Recommendations

- **Equipment Replacement/Upgrade**
 - Some PSAPs will likely have funding problems when it comes time to replace the equipment originally funded by the Board at 100%
 - The committee recommends that Public Safety Communications (PSC) Division staff assist with identifying the localities and PSAPs that may have this issue and support them with preparing for it
 - No additional cost at this time
- **Centralized Contracts**
 - The committee recommends that staff survey PSAPs to determine the interest for centralized contracts for individual products and services
 - If interest is worthwhile staff should execute contracts for equipment and service similar to exiting VITA contracts.
 - No additional cost at this time



Recommendations

- **PSAP Assistance**
 - Several PSAPs will need ongoing assistance to maintain their wireless E-911 deployments
 - The committee recommends that the Board endorse, to the CIO, the concept of three regional offices to provide direct PSC Division staff support to the PSAPs on an ongoing basis
 - Approximately \$380,000 annually (does not require Board approval)
- **Appropriate Funding Formula**
 - Replacement costs will be an issue for large and small PSAPs moving forward
 - No changes are recommended at this time
 - The Board will need to work with the PSAPs and the General Assembly to proactively address the issue of sufficient ongoing funding for PSAPs
 - The Board may want to consider an on-going group to monitor this issue
 - No additional cost at this time

Recommendations



- **Personnel Funding**
 - The \$30,000 minimum is sufficient for the intended purpose of being able to hire an additional dispatcher
 - There is insufficient funding for other required personnel costs to support information technology costs including GIS.
 - The committee recommends that the current allowance for GIS personnel costs be expanded to include all IT support services from both internal and external staff
 - The committee also recommends a second minimum of \$10,000 be established for those costs.
 - Costs could simply be added to the PSAP's existing personnel costs
 - Approximately \$500,000 annually
- **Director/Manager Funding**
 - The committee recommends that one director's salary be included in each PSAP's personnel costs even if they have other responsibilities outside the PSAP.
 - Undetermined annual cost impact but projected to be negligible

FY2005 Annual Report



Report Requirements



- State of enhanced wireless emergency telecommunications services;
- Impact of, or need for, legislation;
- Need for changes in the wireless funding mechanism; and
- Sufficiency of other moneys for the provision of wireline services.

Future of E-911



- Brief History of 9-1-1
- Current Situation
- System Issues/Gaps
- Guiding Principles
- Future Vision/Direction

State of Wireless



- 122 localities fully implemented with Phase I (103 in FY2004)
- 5 other localities with at least one provider with Phase II
- 4 requests exceed the 6-month FCC deadline for Phase I (27 in 2004)
- 79 localities fully implemented with Phase II (47 in FY2004)
- 30 other localities with at least one provider with Phase II

State of Wireless



- Phase I
 - 674 deployments (up from 603 last year)
 - 18 deployments in progress
 - 19 with no request
- Phase II
 - 555 deployments (up from 323 last year)
 - 74 deployments in progress
 - 82 with no request
- 711 possible deployments

State of Wireless



- Phase I by subscriber count
 - 99.25% - Complete
 - .25% - Requested
- Phase II by subscriber count
 - 93% - Complete
 - 4% - Requested

State of Wireless – FY2004



Wireless Phase I Status

Complete
Partial
Requested
No Request



State of Wireless – FY2005



Wireless Phase I Status

Complete
Partial
Requested
No Request



State of Wireless – FY2004



State of Wireless – FY2005



Need for Legislation



- All recommendations from last year were approved during the 2005 General Assembly Session
- No change recommend for the wireless E-911 legislation this year

Wireless Funding



- Wireless E-911 Fund is fiscally sound
- Surcharge rate (\$0.75) can be lowered to \$0.65 if State Police funding is eliminated
- Fund balance expected to be \$13-15 million at the end of fiscal year, but LMU settlements have not been paid

Wireline Funding



- All \$9.8 million appropriated in FY2003 has been committed to PSAPs
- All 37 eligible localities have received or are receiving funding
- Payments are made based on contract pricing or firm quotes

Wireless Responsibility



- 7 localities not receiving wireless 9-1-1 directly as of July 1, 2005
- 2 are working on major PSAP renovations, which have delayed implementation
- 5 remaining will deploy as they deploy wireline E-911
- All are working toward Phase I & II

Future of E-911



- Brief History of 9-1-1
- Current Situation
- System Issues/Gaps
- Guiding Principles
- Future Vision/Direction

Brief History of 9-1-1



- Single number first proposed in 1957
- First official call in Feb. 1968 in Alabama
- AT&T develops E-911 in 1980
- Virginia's first legislation in early 1980's
- Wireless service enters in 1985 routed in most areas to VSP
- Wireline E-911 legislation revised in 1993
- FCC acts on Wireless E-911 in 1996

Brief History (continued)



- First Board and surcharge for VA in 1998
- Two year Crime Commission Study also initiated in 1998
- Study concluded and resulting legislation passes in 2000 reforming Board
- July 1, 2000 finds 37 without E-911 and few wireless deployments
- Diversion of funds in 2003/2004 and to VSP for wireless call taking

Current Situation



- Only nine localities without E-911
- Over 80% complete with wireless Phase II based on subscriber count
- Wireline telephone service is declining
- Citizens are converting to wireless or new telecommunications technologies
- Board limited to wireless funding and assistance only
- E-911 network is an evolution of regulatory and technological influences

System Issues/Gaps



- Existing Architecture
 - Nine independent networks
 - Designed based on LATA areas/rate centers
 - Analog technology to PSAP (voice-based)
 - Network and application one and the same
 - No central management to ensure interoperability

System Issues/Gaps (cont.)



- New Technologies
 - Voice over Internet Protocol (VoIP)
 - Non-voice devices (SMS, IM, etc.)
 - Extremely limited ability to receive data
 - New technologies are national or global
 - Connectivity to local/regional 9-1-1 systems inefficient

System Issues/Gaps (cont.)



- Funding
 - Wireline funding reducing/shifting
 - Wireless funding has different usages
 - New technologies may not contribute
 - Some PSAPs may not be able to maintain "system" with current resources
 - No minimum standards for PSAP beyond DCJS training

Guiding Principles



- PSAPs are local services
- No unfunded mandates or standards
- Sufficient funding is needed to support PSAPs and network (current/future)
- E-911 should be available to all who need it regardless of telecommunications device
- Standards are needed to ensure consistent service levels and interoperability

Future Vision



- Continuation of locally managed and controlled PSAPs
- Integrated Public Safety network
 - IP-based, managed, secure
 - Layered with national, state and local components
 - State responsible for state layer
 - Shared with multiple application

Future Vision (continued)



- Next Generation E-911
 - E-911 as an application on the network
 - E-911 application is technology neutral serving all technologies
 - Data is processed with the same ease as voice
 - Partnership between localities and state

Future Vision (continued)



- PSAP Standards
- Funding provided to PSAPs for minimum required configuration
 - Technology neutral in collection and payment
 - Encouragement for efficient organization/operation of PSAPs
 - Public education is a partnership between state and local agencies
- Anytime, anywhere, from any device the call is sent to the correct PSAP and processed rapidly

Next Steps



- Reach consensus on legislative goals for this year (if any)
- Form Ad-Hoc Committee to recommend specific steps to achieving those goals
- Committee meet at least three times before September meeting to formulate recommendations
- Recommendations consider in September for inclusion in Annual Report

Committee Work



- Held 3 meetings – August 11, August 16 & September 1
- First meeting – brain storming ideas
- Second meeting – defining what to do in lay terms
- Third meeting – focus on the actual legislative language to recommend

Guiding Principles



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Future Vision



- Continuation of locally managed and controlled PSAPs
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Future Vision (continued)



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Committee Result



- The committee is recommending the Board consider endorsing to GA:
 - Expanding Board role to VoIP and IP-based network only, mirroring wireless
 - Authorize the Board to publish best practices (instead of standards)
 - Change funding to automatic PSAP funding and grant program with fund balance being distributed each year
 - Supporting the collection of the local, wireline E-911 surcharge from VoIP consumers

Board Role Change



- Major changes are to planning and reporting role
- Added duty to promote future plan through grant funding
- Grant funding should come from a General Fund appropriation
- Wireline E-911 should remain excluded from Board involvement

Best Practices



- Change from direction to committee and Guiding Principle
- Legislation would add a duty to the Board to:

"Drawing from the work of E -911 professional organizations, in its sole discretion, publish best practices for PSAPs. These best practices shall be voluntary and recommended by a subcommittee composed of PSAP representatives."

Funding Change



- Deletion of cost recovery model
- Half or collected funding distributed to PSAPs monthly based on percent of fund formula
- Other half of funding distributed for need-based grants to PSAPs and carriers
- Any uncommitted funds at the end of each fiscal year are distributed based on percent
- Percentage recalculated each biennium
- Carrier may agree to no cost recovery but want partial surcharge reduction

VoIP Surcharge



- Committee recommending adding VoIP service to local wireline E-911 surcharge collection
- Wireless carrier representative opposes in favor of \$.75 surcharge
- If it is added to wireline surcharge, may not be an issue for the Board to take a position on

VoIP Refresher



What is VoIP?

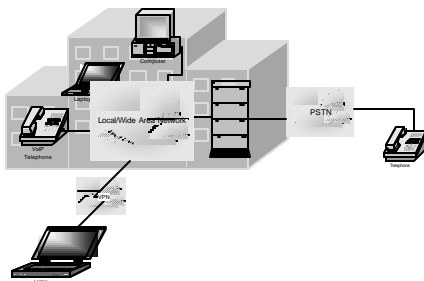


- Converts voice to data
- Packet switched instead of circuit switched
- Uses existing data infrastructure to process voice (cost savings)
- Eliminates long distance by using Internet as transport
- Practically requires broadband access

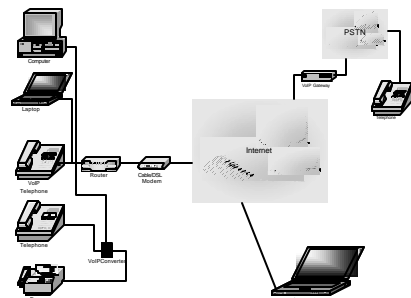
Two VoIP Types

- Enterprise VoIP
 - Cisco, Nortel, etc.
 - Replaces PBX
 - Similar Issues
 - Potential wider geographic spread
 - More Dynamic Changes
- Internet VoIP
 - Vonage, AT&T, Packet8, etc.
 - Non-local Numbers
 - Flat Rate Pricing
 - Much like Email
 - Multiple "providers" of the service

Enterprise VoIP



Internet VoIP



Solutions



- Enterprise VoIP – PSALI/End station ID
- Internet VoIP Solutions
 - I1 – Immediate – Route VoIP call to a 10-digit number
 - I2 – Interim – Handle VoIP like NCAS wireless E-911
 - I3 – Long term – The call enters PSAP as native VoIP

Solutions (continued)



- Connectivity must be established with Tandem for I2 solution
 - Direct trunking
 - ◆ Trunks between access gateway and Tandem
 - ◆ Cost prohibitive for some VoIP carriers
 - PSTN
 - ◆ Using a PSTN telephone line into Tandem (not supported by many LECs)

Solutions (continued)



- Connectivity must be established with Tandem for I2 solution (continued)
 - Packet Voice Gateway (PVG)
 - ◆ Establishing a central gateway(s) connected to the Tandem for processing E-911 from all VoIP providers
 - CLECs offering VoIP may get connectivity to Tandem through wireline service thus providing E-911

VoIP FCC Order



- Order Requires VoIP Providers to deploy E-911 with ANI/ALI (I2 solution) to all PSAPS in 120 days
- Deadline is November 29, 2005
- Does not require PSAP request
- Does not address nomadic users
- Does not require surcharge collection
